

Claims:

1. A method for synchronizing information of different stages of a process produced by optical imaging measuring devices (1-N) which monitor the manufacturing and/or finishing process of a fibre web, in relation to the movement of the fibre web in the machine direction for monitoring the quality and/or condition of said process, which method comprises the steps of

- monitoring the moving fibre web and/or a moving means involved in the processing of the fibre web by means of imaging measuring devices (1-N) placed in successive measuring positions in the machine direction,
- recording the information acquired from said imaging measuring devices (1-N) in different measuring positions,
- searching the information recorded by imaging in the different measuring positions, for images, or the like, relating to the same local area of the fibre web, and
- analyzing said images, or the like, relating to the same local area of the fibre web in different measuring positions, for monitoring the quality and /or condition of said process,

characterized in that the method also comprises the steps of

- searching the images, or the like, recorded in the different measuring positions, by digital pattern recognition, for a feature / features (30) relating to the same local area of the fibre web, and
- determining travel time delays of the fibre web between the different measuring positions on the basis of time data included in said feature/features (30) upon the recording of images, or the like, in the different measuring positions for automatically synchronizing, with each other in time, said images or the like, recorded in different measuring positions with the movement of the fibre web in the machine direction.

2. The method according to claim 1, **characterized** in that in information recorded by imaging in each measuring position (1-N), the search is limited to a given sequence (W) comprising successive images or the like, which sequence is defined by means of approximate synchro-

nization based on the distance (22) between the measuring positions and the speed data (21) of the fibre web.

- 5 3. The method according to claim 1 or 2, **characterized** in that in the information recorded by imaging in each measuring position (1–N), the search is limited to a given area (ROI) narrower than the production width of the fibre web in the transverse direction.
- 10 4. The method according to any of the preceding claims, **characterized** in that the information recorded by imaging is processed by methods of digital image processing to emphasize the feature/features (30) to be searched in the fibre web and/or a moving means involved in the processing of the fibre web, to facilitate pattern recognition.
- 15 5. The method according to any of the preceding claims, **characterized** in that the information recorded by imaging is produced with cameras, preferably cameras of the visible wavelength range or thermal cameras operating in the infrared range.
- 20 6. The method according to any of the preceding claims 1 to 4, **characterized** in that the information recorded by imaging is produced with imaging measuring devices based on spectral resolution, for example imaging spectrometers.
- 25 7. The method according to any of the preceding claims, **characterized** in that the information recorded by imaging is produced substantially over the whole production width of the fibre web or on only a part of the production width of the fibre web.
- 30 8. The method according to any of the preceding claims, **characterized** in that the feature (30) to be found in the information recorded by imaging is a local edge defect, a hole, a tear, a coating defect in the fibre web and/or a moving means involved in the processing of the fibre web, such as a wire, a felt, a roll, a reel, or the like; a tail of the fibre web passing through the manufacturing and/or finishing apparatus in
35 connection with an event of break in the fibre web; or a locally discerni-

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ble phenomenon caused by the user by marking in the fibre web or in a moving means involved in its processing.

AMENDED SHEET